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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/868,262	01/03/2002	Stephen Karl Heeks	C1043/7034	7553

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EXAMINER

GUHARAY, KARABI

ART UNIT	PAPER NUMBER
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2879

DATE MAILED: 10/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/868,262

Applicant(s)

HEEKS ET AL.

Examiner

Karabi Guharay

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Amendment A, filed on 11 August 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-12, 16-22 & 33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10-12, 16-22 and 33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Response to Amendment

Amendment B, filed on 11 August 2003 has been considered and entered.

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Submission of Fig 7 is acknowledged.

Amendment of specification and submission of Fig 7 overcome the objections to the drawings.

Claims 1-9, 13-15, 23-31 are cancelled. New claim 33 has been added.

Amendment of claim 11 overcomes the rejection of claim 11 under 35 U.S.C. 112 second paragraph.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 10-11, 16, 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Harvey III et al. (US 5686360).

Regarding claim 10, Harvey discloses an organic light emitting device (20 of Fig 4) comprising a layer of light emission material 14 (Fig 2) interposed between a first electrode 13 (anode) and second electrode 15 (cathode), comprising one or more electrode layers on the light emissive organic material for injecting charge carriers into the light emissive organic material (lines 9-13 of column 4), wherein the OLED further

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has a stack comprising a first inert barrier layer 28 and at least one gettering layer 26 (Fig 4) interposed between the outer electrode 15 and the first inert barrier layer (28) for absorbing moisture and oxygen (lines 55-66 of column 5), the gettering layer being adjacent the outermost electrode layer (see Fig 4).

Regarding claim 11, Harvey discloses that the first inert barrier layer 28 is selected from the group consisting of AlN, SiO-2, Si-3N-4 and Al-2O-3 (lines 60-61 of column 5).

Regarding claims 16 & 18, Harvey discloses that the getter layer 26 is a layer of a reactive metal (Li or Mg, lines 61-64 of column 5).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 12, 17, 19-20 & 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harvey as applied to claim 1.

Regarding claims 12 & 20, Harvey discloses that thicknesses of the each layer are too thin (lines 60-63 of column 3) but fail to disclose the claimed range of thickness. However, it would have been obvious to one having ordinary skill in the art at the time

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the invention was made to obtain the desired range, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art.

Regarding claim 17, and 19, Harvey fails to disclose that the gettering material is either BaO or Ca. But these two materials are well known gettering material. Thus selection of these known materials on the basis of their suitability for the intended use is considered to be within the general skill of a worker in the art.

Regarding claim 33, Harvey fails to disclose that the first inert barrier layer 28 is a layer of AlN, instead discloses other dielectric material such as silicon nitride. Dielectric materials such as silicon dioxide, silicon nitride, aluminum nitride (AlN) are recognized equivalent materials for passivation layer, thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use AlN, instead of silicon nitride for the first inert barrier layer, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use.

Claims 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harvey III et al. as applied to claim 1 above, and further in view of Hung et al. (US 5776622).

Regarding claims 21-22, Harvey discloses all the claimed limitation of claim 21 (see rejection of claim 10) except that the one of first and second electrodes is a multi-layered electrode comprising a first low work function conductive layer on the light emissive layer and a second conductive layer on the first layer. However, Hung teaches

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to have multi-layered cathode in an organic EL device having a first low work function conductive layer of calcium having a thickness 200nm or less, on the light emitting layer and a second conductive layer of aluminum having a thickness of 5 micron or less (lines 21-27 of column 5, and line 1 of column 5, and claim 2) This multi-layer cathode providing stability against atmospheric corrosion (see abstract). Thus it would have been obvious to one having ordinary skill in the art at the time the invention was made to introduce multi-layered cathode in the device of Harvey in order to obtain stability against atmospheric corrosion.

Response to Arguments

Applicant's arguments filed 11 August 2003, have been fully considered but they are not persuasive. Applicant has amended claim 10 to include the limitation that the gettering layer being adjacent the outmost electrode layer.

Applicant contends that prior art of Harvey does not teach the gettering layer being adjacent outermost electrode layer.

However, examiner respectfully disagrees. The gettering layer 26 is adjacent the outermost electrode layer, since meaning of adjacent (see Webster's Dictionary) is "close proximity". The word "adjacent" does not necessarily means only "on top of".

Other Prior Art Cited

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure : Onagi et al. (US 5382460).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karabi Guharay whose telephone number is (703) 305-1971. The examiner can normally be reached on Monday-Friday 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (703) 305-4794. The fax phone number for the organization is (703) 308-7382.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.


Karabi Guharay
Patent Examiner
Art Unit 2879


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